Energy Subgroup Final Report

In other regions of the United States, mandated renewable portfolio standards are driving the energy sector. Virginia has a voluntary renewable portfolio standard to provide incentives for use of alternative/renewable energy. By building on existing energy resources and moving for with new technology for the future, there are tremendous opportunities for the Commonwealth to become the Energy Capital of the East Coast – the goal put forth by Governor Bob McDonnell. All energy sectors have competing interests and a coordinated effort – from coal to offshore wind – is necessary to come up with a common ground to work toward this goal.

Virginia has tremendous energy assets, but the challenge is how to optimize all of the assets – and have a net number of jobs to offset potential job loss in other areas. We need to declare the space we can really win and move forward in that area. The fundamentals that will define energy are technology – not subsidies. The consumer will make the decisions about cars, electricity, insulation, etc., and the consumer will determine the market price. A challenge to energy in the Commonwealth is how the State Corporation Commission (SCC) plays into this picture as they look into the consumer and the rates.

The Energy Subgroup identified short-term, mid-term and long-term energy job-related sectors as the areas of potential job creation opportunities:

- **Short-term (1-2 years):** conservation, biomass and infrastructure (pipelines and transmission lines);
- **Mid-term (3-5 years):** nuclear sector and uranium mining (if approved); and
- **Long-term (5 years +):** offshore wind and offshore oil and natural gas.

The subgroup identified conservation efforts as the biggest bang for the buck for short-term opportunities.

Research centers in the Commonwealth are instrumental in creating energy-related jobs. There is currently no method to comprehensively identify and tie the pockets of excellence in our higher education system to business outcomes. Lack of catalyzed coordination among the universities is an opportunity lost. The five energy centers being established by the Virginia Tobacco Commission provide an opportunity to create a synergy in this area and also how to better handle intellectual property issues for higher education. This is an area to increase energy entrepreneurship and put Virginia on the map as an innovative technology economy. In addition, implementing an emerging technologies fund, similar to a program in Texas, will provide strategic and flexible incentive opportunities as it relates to quickly evolving technologies. This recommendation is also found in the Business Recruitment/Development Subgroup final report.

The Commonwealth should support universities efforts to get grants for offshore wind development.

Nuclear resources must be in the mix of energy resources for the Commonwealth. This includes getting nuclear engineering and nuclear technician programs back online. While Virginia Tech, the University of Virginia and Virginia Commonwealth University have moved in this direction – this is an area of void in the energy workforce. There are two ongoing studies on uranium mining in the Commonwealth and the subgroup emphasized the need to have the studies completed in short order rather than taking multiple years to study. It is recommended the Commonwealth monitor the National Academy of Science findings – keeping in mind the benefits to the Commonwealth:

- What can we do to help facilitate job growth?
- What can we do to help areas with existing nuclear facilities and companies?

There is a number of existing programs already in place related to conservation and energy efficiencies in the Commonwealth and we need to have an effective methodology to implement these programs between the public and private sector.

The armed forces are working toward a goal of producing 25 percent of their energy needs from renewable sources by 2025. The significant military presence in the Commonwealth provides a terrific prospect to leverage the military's goal and provide the infrastructure and manufacturing for this renewable energy portfolio.

The group also recognized the potential negative impact of policies coming out off Washington, D.C., both through legislation and regulation. The Environmental Protection Agency (EPA) is a tremendous concern of aggravating a negative impact on economic activity. For example, the biggest challenge to the Virginia coal industry is the EPA as they are not issuing mining permits – this will result in increased energy costs on individuals and businesses. The federal government will be a driver in a number of areas and the Commonwealth needs to formulate a policy to address these concerns.

In addition to the work of the subgroup, it is important to recognize the Virginia Energy Plan for the McDonnell Administration was released on July 1, 2010, with recommendations for energy jobs and innovation in the Commonwealth as listed below:

<u>Goals and Recommendations - Virginia Energy Plan</u>

Goal 1: Make Virginia the Energy Capital of the East Coast.

- **Grow both traditional and alternative energy production, jobs, and investment in Virginia.**
- **Increase the use of conservation and efficiency in Virginia's homes and businesses, and support the establishment and expansion of energy efficiency businesses.**

Goal 1 Recommendations:

- Grow in-state production of energy, with resulting jobs and investment, by 20 percent over the next 10 years.

    - Begin offshore natural gas and oil development, and expand onshore oil and gas development in Virginia, through an open regulatory process that facilitates safe and environmentally sound energy production and eases market entry for new and expanding oil and gas businesses.

    - Develop the environmental response infrastructure to support offshore oil and gas production so the systems are in place when development is allowed in the future.

    - Expand development of renewable resources, particularly using biomass, waste, and wind resources, to generate electricity and produce liquid fuels. Particular emphasis should be placed on activities that provide secondary benefits such as water quality improvements.

    - Provide green job tax credits and other financial support to companies providing new jobs and investments in clean energy production. Support should be based on a positive return on investment to the Commonwealth and its localities for their support.

    - Revise the solar photovoltaic manufacturing incentive grant fund to broadly cover renewable energy manufacturing businesses.

    - Provide an efficient permitting process for biomass, wind, and other alternate energy resources to facilitate timely project development consistent with good environmental protection.

    - Support the private sector's efforts to grow Virginia's offshore wind development and supply chain industries. This should include:
        - Supporting work of the Virginia Coastal Energy Research Consortium (VCERC) and the Virginia Offshore Wind Development Authority; and
        - Working with the Bureau of Ocean Energy Management, Regulation and Enforcement (former Minerals Management Service) to streamline the federal offshore wind leasing process.

    - Support production of biomass and algae-based drop-in fuels to support military and private uses for transportation and heating.

    - Support development of new electric generating resources to meet growing electric demand, including the third nuclear reactor at the North Anna Power Station and new base-load, intermediate load, and peaking generation from conventional resources.

- Support the development of the new generation of nuclear power plants, such as the AREVA Generation III+ boiling water reactor (BWR) and the B&W mPower reactor, and the manufacturing of plant components.

- Facilitate partnerships between Virginia's electric utilities and private generation developers where private developers can deliver power more cost competitively for ratepayers.

- Facilitate development of private power projects to serve out-of-state markets.

- Balance the need for low-cost power to support Virginia manufacturing, commerce, and citizens' quality of life with the need to provide long-term, stable, clean energy supplies.

- Support expansion of distributed generation options at industrial, commercial, and residential sites.

- Assist Virginia's coal and natural gas industries comply with state and federal requirements for safety, environmental management, and reclamation. This will lead to strong mining companies working to support the economic and environmental health of the communities in which they work.

- Complete the study of the efficacy of uranium mining in Virginia in order to decide whether the existing moratorium should be continued or removed in the Commonwealth.

- Expand jobs and investment in energy efficiency services.

    - Facilitate development of local and utility energy efficiency programs that overcome market inefficiencies and market failures that reduce investment below optimal levels.

    - Support energy efficiency as a way to help low-income, elderly, and fixed-income families address their energy needs.

- Provide necessary systems to support delivery of energy resources under emergency conditions, addressing civilian and military needs.

Goal 2. Expand public education about Virginia's energy production and consumption, its effect on our economy, and how Virginians can use energy more efficiently.

Goal 2 Recommendations:

- Implement State Corporation Commission's *Virginia Energy Sense* consumer energy education program.

- Coordinate energy efficiency public information efforts among utility, federal, state, and local sources to provide clear and easily understandable messages to consumers.

- Expand energy-related education in all phases of Virginians lives through:

    - Expanding community college jobs training in areas such as energy auditing and efficiency, utility and related trade activities, and renewable system operation and maintenance; and

    - Expand university programs in areas such as nuclear power, energy engineering, and environmental management.

Goal 3. Maximize the investment in clean energy research and development through the work of the Universities Clean Energy Development and Economic Stimulus Foundation.

Goal 3 Recommendations:

- Coordinate energy R&D actions among universities and private companies to maximize value of state resources.

    - Working with the Lieutenant Governor, serving as the Chief Job Creation Officer, and Cabinet offices, coordinate resources available through the Tobacco Commission, Virginia Economic Development Partnership, Departments of Mines, Minerals and Energy, Agriculture and Consumer Services, and Business Assistance to optimize growth of energy jobs across Virginia.

    - Implement Virginia Universities Clean Energy Development and Economic Stimulus Foundation.

    - Establish the Virginia Energy Initiative to bring together research capabilities of our major research universities under one canopy to help focus efforts on developing energy technologies for the 21st century.

    - Promote development of offshore oil and gas development as a source of VCERC research and development funding.

    - Support R&D for clean coal technologies and carbon sequestration.

    - Work with the Virginia Tobacco Commission, private sector energy leaders, community colleges, and our major research universities to establish Southside and Southwest Virginia as the nation's hub for traditional and alternative energy research and development.

The Virginia Energy Plan can be found on the Virginia Department of Mines, Minerals and Energy website: http://www.dmme.virginia.gov/DE/VAEnergyPlan/VEP-2010.shtml